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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,774	12/30/2003	Anders Grunnet-Jepsen	42P15138	1056

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EXAMINER	
PENG, CHARLIE YU	
ART UNIT	PAPER NUMBER
2883	

MAIL DATE	DELIVERY MODE
04/13/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/749,774	GRUNNET-JEPSEN ET AL.	
	Examiner	Art Unit	
	CHARLIE PENG	2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 December 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15,16 and 19-40* is/are pending in the application.

4a) Of the above claim(s) *15,16 and 26-38* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *19-25,39 and 40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 June 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Appeal Brief

1. An Appeal Conference was held on 10 February 2009. All conferees of the Conference agree that the 35 U.S.C. 103 obviousness-type rejection applied on at least Claim 19 in the previous office action should be withdrawn and replaced with a 35 U.S.C. 102 anticipatory rejection.

2. Please see office action below for details.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 19 is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,836,621 to Bendelli. Bendelli teaches an OADM comprising a Sagnac interferometer structure 5 having a tunable Bragg grating 2, which is a distributed reflector, inserted therein, a phase control element 7 coupled with the interferometer 5, and wherein the grating is tuned in such a way as to allocate the spectral response to the new channel (signal) to be extracted (dropped) or inserted (added). (See at least Fig. 1 and description)

5. Although Bendelli does not specifically state that the phase control element 7 can be used to control the power of the signal, Bendelli teaches an apparatus the meets all the structural

limitations as claimed and therefore must be able to perform the same functions. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. (See MPEP 2111 [R-1])

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claim 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bendelli in view of U.S. Patent 4,442,750 to Bowley. Bendelli teaches the OADM with a Sagnac interferometer and a phase controller except for how phase adjustment is accomplished. It is well known in the art to use thermal or stress means to phase-modulate light in an optical fiber. Bowley phase-modulates light caused by pressure/piezoelectric variations or other interactions of various energy forms (magnetic, RF, thermal/heater) on specially coated fibers, as sensed through known fiber optic interferometric techniques. (See at least column 4, paragraph 3) It would have been obvious to one of ordinary skill in the art at the time the invention was made to include any of such well-known phase-modulation means in Bendelli's invention. The

motivation would be that using well-known and well-practiced techniques reduces experimental uncertainties and/or manufacturing cost.

8. Claims 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bendelli in view of U.S. Patent 4,898,468 to Udd. Bendelli teaches the OADM with a Sagnac interferometer and a phase controller except for a frequency adjustment circuit. Udd teaches phase modulator 17 and a frequency shift 19 in a Sagnac interferometer implemented with a fiber, which creates optical effect from thermal elongation of the fiber (heater) or shifts due to strain (piezoelectric). (See at least Fig. 1 and description) Temperature increases will also cause optical fiber 21 to experience an optical pathlength change. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the frequency shifter in Bendelli's OADM. The motivation would be that by comparing the output of the system with the frequency shifter switched in the "off" and "on" position dependent and position independent modes, the location as well as the magnitude of a disturbance may be deduced.

9. With specific reference to claim 25, although Bendelli does not specifically speak of a "hitless" OADM, Bendelli and Udd combine to teach the OADM apparatus having the Sagnac interferometer with the frequency shifter and it must be able to at least perform the same. Furthermore, Bendelli stated that "Tuning of the wavelength selector is changed, so it has second wavelength and phase shift properties such that the entire stream of optical signals is coupled from an input port to an output port via the tunable wavelength selector, and the extracting and inserting operation is not performed while the tuning is changed". (Abstract) This is consistent with not inadvertently block a channel that should not be dropped as disclosed by the applicant.

10. Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bendelli. Bendelli teaches the OADM with a Sagnac interferometer and a phase controller wherein a multiplexed stream enters through the port 1A of the circulator 1 and leaves this circulator through the port 1B, while the tuning channel can be extracted and inserted through the ports 3A and 3B respectively of the circulator 3. Bendelli does not teach a plurality of such Sagnac interferometers. Since applicant has not disclosed how the plurality of Sagnac interferometers interact to as part of an WDM system, or the interferometers are even optically connected to each other, and as it has been held that duplication of working parts involves only routine skill in the art, (*In re Harza,* 124 USPQ 378) it would have been obvious to one of ordinary skill in the art at the time the invention was made to merely set up a plurality of Sagnac interferometers connected in series, not connected to each other or other wise for the purpose to perform add/drop on multiple and separate input signals.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLIE PENG whose telephone number is (571)272-2177. The examiner can normally be reached on 9 am - 6 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/CHARLIE PENG/
Primary Examiner, Art Unit 2883

04/10/2009